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EXPLANATION OF PLATE XXXIII.

Fig. 1. *Gonomeandrus chrysostephanus*. Nat. size.

Fig. 2. The same, laid open. *a*, stomach; *b*, peduncle; *c*, gonads on proximal portion of radial canals; *c'*, roots of four radial canals proceeding from base of stomach; *c''*, a prolongation of peduncle; *c'''*, gonadal filament or diverticulum; *d*, branched portion of radial canal; *e*, circular canal; *f*, a main centripetal circular canal; *g*, velum; *h*, tips of marginal lobes showing below velum.

Fig. 3. Diagrammatic transverse section at base of stomach. *a*, base of stomach; *b*, four radial canals; *c*, lobes of peduncle.

Fig. 4. Roots of tentacles opening into *a*, the circular canal. One tentacle showing distal portion with nematocyst warts, $\times 10$ diameters.

Fig. 5. *Gonionemus Agassizii*, Murbach and Shearer, edge of umbrella. *a*, edges of peronia; *b*, bulbs rich in large nematocysts, at base of each tentacle; *c*, otocyst.

Fig. 6. Otocyst of *G. Agassizii*. $\times 325$. *a*, otolith in centre of stalked auditory club and surrounded by partly columnar, partly rounded, endoderm cells; *b*, auditory hairs.

LXIV.—Descriptions of new South-American Fishes in the Collection of the British Museum. By C. TATE REGAN, B.A.

Pristigaster (Opisthopterus) effulgens.

Depth of body $3\frac{3}{4}$ times in the total length, length of head 5 times. Diameter of eye $3\frac{1}{2}$ times in the length of head and twice the interorbital width. Snout shorter than diameter of

eye. Maxillary more than half the length of head. Sc. 56/13. D. 11. A. 65. Distance from origin of dorsal to base of caudal $1\frac{3}{4}$ times in that from tip of snout to origin of dorsal. Pectoral longer than the head. Dark above, silvery on sides and below.

Total length 226 mm.

A single specimen from the Rio Vaqueria, N.W. Ecuador.

This species is distinguished from *P. Dovii*, Gthr., its nearest ally, by the larger mouth and more numerous anal rays.

Ophichthys (Pisodontophis) brevimanus.

Depth of body about 21 times in the total length, length of head about $8\frac{1}{2}$ times. Anal opening equidistant from tip of snout and posterior end of body. Diameter of eye 16 times in the length of head and $2\frac{2}{3}$ times in the length of snout, which is $1\frac{3}{4}$ times the distance from eye to posterior angle of mouth. Teeth granular. Dorsal commencing above tip of pectoral, which is short, its length $9\frac{1}{2}$ times in that of the head. Dark bluish grey above, lighter below; numerous dark spots on the head; dorsal dark, with a narrow light margin; anal light.

Total length 630 mm.

A single specimen from the Rio Vaqueria, near La Tola, N.W. Ecuador.

Piabucina astrigata.

Depth of body $4\frac{1}{2}$ –5 times in the total length, length of head about $4\frac{1}{2}$ times. Snout as long as the eye, the diameter of which is $4\frac{1}{3}$ – $5\frac{1}{2}$ times in the length of head, interorbital width $2\frac{1}{3}$ – $2\frac{1}{2}$ times. Maxillary extending to below middle of eye; mandibular rami well separated, the interspace somewhat narrowed anteriorly, but not tapering to a point. Sc. 28–29/8. D. II 8, its origin nearly equidistant from the posterior edge of the postorbitals and the base of caudal. A. II 9. Pectoral $\frac{2}{3}$ – $\frac{3}{4}$ the length of head. Ventrals extending a little more than half the distance from their base to the origin of anal (in the adult) or nearly $\frac{2}{3}$ of that distance (in the young). Caudal bilobed. Caudal peduncle $1\frac{1}{2}$ – $1\frac{3}{4}$ times as long as deep. Olivaceous above, lighter below. A dark spot on the base of caudal. In the young a series of large dark spots along the middle of the side, most conspicuous posteriorly.

Total length 185 millim.

Five specimens from St. Javier, Paramba and the Rio Sapayo, N.W. Ecuador.

Piabucina pleurotaenia.

Depth of body $4\frac{3}{4}$ – $5\frac{1}{2}$ times in the total length, length of head $4\frac{1}{3}$ – $4\frac{2}{3}$ times. Snout as long as or longer than the eye, the diameter of which is $4\frac{2}{3}$ –6 times in the length of head, interorbital width $2\frac{1}{2}$ – $2\frac{3}{4}$ times. Maxillary extending to below anterior $\frac{1}{3}$ of eye; mandibular rami well separated, the interspace somewhat narrowed anteriorly, but not tapering to a point. Sc. 30–32/8. D. II 8, its origin nearly equidistant from middle of eye and base of caudal. A II 9. Pectoral $\frac{2}{3}$ – $\frac{3}{4}$ the length of head. Ventrals extending less than $\frac{1}{2}$ the distance from their base to the origin of anal (in the adult) or $\frac{3}{5}$ of that distance (in the young). Caudal bilobed. Caudal peduncle $1\frac{1}{5}$ – $1\frac{1}{3}$ times as long as deep. A dark longitudinal stripe along the middle of the side, ending in a dark spot on the base of caudal.

Total length 160 mm.

Six specimens from Merida, Venezuela, 1600 metres, collected by Sr. Briceño.

This species differs from the preceding in the smaller eye, different position of the dorsal, coloration, &c. Both are distinguished from *P. unitaeniata*, Gthr., and *P. elongata*, Blgr., by the broader interspace between the mandibular rami, and from *P. erythrinoides*, C. & V., by the fewer scales.

Trichomycterus vittatus.

Length of head $6\frac{1}{4}$ times in the total length. Head as broad as long. Diameter of eye $2\frac{1}{3}$ times in the interocular width, which is $3\frac{1}{2}$ times in the length of head. Snout slightly shorter than the postorbital part of head. Barbels equal to $\frac{2}{3}$ the length of head. Dorsal with 6 branched rays, originating in advance of the anal opening, the distance from its point of origin to the caudal $1\frac{1}{2}$ times in the distance from the former to the tip of snout. Anal with 4 branched rays, originating slightly behind the vertical from the last dorsal ray, the distance from the base of its last ray to the caudal $4\frac{1}{2}$ times in the total length. Longest branched ray of pectoral $\frac{3}{4}$ the length of the simple outer ray, which is as long as the head. Ventrals extending $\frac{3}{5}$ of the distance from their base to the origin of anal. Caudal truncate. Head and body with dark spots; a dark longitudinal stripe along the middle of the side.

Total length 78 mm.

One specimen from the Marcapata Valley, E. Peru, collected by Mr. Ockenden.

Allied to *T. Kneri*, Sldr., which has the head longer than broad and the caudal emarginate.

Trichomycterus retropinnis.

Length of head $5\frac{1}{2}$ times in the total length. Head as broad as long. Diameter of eye about 4 times in the interocular width, which is $3\frac{1}{3}$ times in the length of head. Snout as long as the postorbital part of head. Barbels equal to about $\frac{4}{5}$ the length of head. Dorsal with 6 branched rays, originating above or slightly behind the anal opening, the distance from its point of origin to the caudal $2\frac{2}{5}$ times in the distance from the former to the tip of the snout. Anal with 4 branched rays, originating below the anterior third of the dorsal, the distance from the base of its last ray to the caudal $5\frac{2}{3}$ times in the total length. Longest branched ray of the pectoral $\frac{2}{3}$ the length of the simple outer ray, which is equal to $\frac{2}{3}$ the length of head. Ventrals not quite reaching the anal opening. Caudal truncate-rounded. Brownish, with an indistinct darker stripe along the middle of the side and traces of some dark spots.

Total length 80 mm.

Two specimens from St. Augustin, Andes of Colombia, 5000 feet, collected by Capt. Dowding.

A third specimen, 30 mm. in total length, which I have purposely excluded from the above diagnosis, has a well-marked broad longitudinal stripe on each side. In it the longest branched ray of the pectoral is $\frac{5}{8}$ the length of the outer simple ray, and the distance from the origin of the dorsal to the caudal is $2\frac{1}{3}$ times in the distance from the former to the tip of the snout.

Allied to *T. nigromaculatus*, Blgr., and *T. amazonicus*, Stdr.; in the position of the dorsal fin intermediate between the two.

Trichomycterus meridae.

Length of head 6-7 times in the total length. Head as long as, or longer than, broad. Diameter of eye about 3 times in the interocular width, which is about 3 times in the length of head. Snout considerably shorter than the postorbital part of head, scarcely longer than the interocular width. Barbels as long, or nearly as long as the head. Dorsal with 6 or 7 branched rays, originating a little in advance of the anal opening, the distance from its point of origin to the caudal $1\frac{2}{3}$ - $1\frac{4}{5}$ times in the distance from the former to the tip of the snout. Anal with 4 or 5 branched rays, originating below the last 2 or 3 rays of the dorsal, the distance from the base of its last ray to the caudal $4\frac{2}{3}$ -5 times in the total length. Longest branched ray of the pectoral $\frac{2}{3}$ the length of

the simple outer ray, which is $1\frac{1}{3}$ times as long as the head. Ventrals extending to the anal opening. Caudal truncate. Head and body with rather large dark spots; dorsal and caudal dusky.

Total length 125 mm.

Eight specimens from Merida, Venezuela, and from the Rio Albireggas, above Merida, altitude 3500 metres, collected by Sr. S. Briceño.

Allied to *T. brasiliensis*, Ltkn., but with a shorter head and more elongate body.

Pimelodus (Pimelodella) tæniophorus.

Depth of body $5\frac{1}{2}$ times in the total length, length of head $4\frac{1}{2}$ times. Head $1\frac{1}{2}$ times as long as broad. Diameter of eye $3\frac{1}{2}$ times in the length of head, interorbital width 4 times. Snout equal in length to the postorbital part of head. Maxillary barbel extending to base of caudal, postmental barbel to extremity of pectoral. D. I 6, the spine slender, its length $1\frac{1}{2}$ times in that of the head. Length of adipose fin about $2\frac{1}{2}$ times in the total length. A. III 8. Pectoral spine extending to below the third or fourth branched ray of the dorsal, stout, with about 12 teeth on its inner edge, the longest equal in length to about $\frac{2}{3}$ the breadth of the spine. Ventrals originating below the last dorsal ray, extending $\frac{2}{3}$ – $\frac{3}{4}$ of the distance from their base to the anal. Caudal forked, the inner rays $\frac{1}{3}$ the length of the outer. A well-developed black lateral stripe extending from the snout, through the eye, to the base of caudal.

Total length 85 mm.

Two specimens from Descalvados, Matto Grosso, collected by Dr. Ternetz, referred by Boulenger to *P. lateristriga* in his account of the Ternetz collection. This species is allied to *P. vittatus*, Ltkn., but differs in having much longer barbels, longer adipose fin, and longer pectoral spine.

Pimelodus (Pimelodella) griseus.

Depth of body 5 times in the total length, length of head $4\frac{1}{4}$ times. Head $1\frac{1}{3}$ times as long as broad. Diameter of eye 4 times in the length of head and equal to the interorbital width. Snout equal in length to the postorbital part of head. Maxillary barbel extending to extremity of ventral, postmental barbel to middle of pectoral. D. I 6, the spine moderately stout, nearly smooth, its length $1\frac{3}{4}$ – $1\frac{3}{4}$ times in that of the head; longest branched ray nearly as long as the head. Length of adipose fin nearly 4 times in the total length.

A. III 8-9. Pectoral spine extending to below the first branched ray of the dorsal, stout, with 12-16 strong teeth on its inner edge, the longest nearly equal in length to the breadth of the spine. Ventrals originating behind the vertical from the last dorsal ray, extending $\frac{4}{5}$ of the distance from their base to the anal. Caudal forked, the upper lobe pointed, a little longer than the lower, which is rounded. Inner caudal rays half as long as the outer. Greyish; a narrow dark stripe along the middle of the side of the body; a dark streak on the membrane in front of each dorsal ray.

Total length 140 mm.

Three specimens from the Durango, Sapayo and Vaqueria Rivers, N.W. Ecuador.

This species is distinguished from *P. lateristriga*, Müll. & Trosch., by the longer head, shorter and stouter dorsal spine, and less deeply forked caudal.

Haplochilus peruanus.

Depth of body about 5 times in the total length, length of head 4 times. Snout a little shorter than eye, the diameter of which is $3\frac{1}{2}$ - $3\frac{2}{3}$ times in the length of head, interorbital width twice. Sc. 45/14. D. 9-10. A. 13-15. Distance from origin of dorsal to base of caudal about $2\frac{2}{3}$ times in that from origin of dorsal to tip of snout. Pectoral nearly $\frac{3}{4}$ the length of head, extending $\frac{1}{2}$ the distance from its base to the origin of anal. Ventrals not or scarcely reaching anal opening. Brownish, with small dark spots on the vertical fins.

Total length 55 mm.

Two specimens from Perim, Peru, 800 metres, collected by the late Mr. P. O. Simons.

Belone fluviatilis.

Length of head about $2\frac{2}{3}$ times in the total length. Diameter of eye $3-3\frac{1}{3}$ times in the length of postorbital part of head and equal to the interorbital width. Snout twice as long as the rest of head. Lower part of maxillary exposed for its whole length. D. 15-16, the anterior rays elevated, the posterior short, subequal in length. A. 17-18, commencing a little in advance of the dorsal, its longest rays a little longer than those of the dorsal and equal to the length of pectoral, which is $4\frac{1}{2}$ -5 times in the length of head. Origin of ventrals nearly equidistant from posterior part of eye and base of caudal. Caudal slightly emarginate. Caudal

peduncle subcylindrical, neither distinctly compressed nor depressed, without keel. 180–200 scales in front of the dorsal. A silvery lateral stripe, becoming broader posteriorly; a more or less distinct dark spot above the base of pectoral.

Total length 450 mm.

Three specimens from the rivers of N.W. Ecuador.

This species appears to be nearest to *B. scapularis*, Jord. & Gilb., from which it is distinguished by the longer head, smaller eye, and more numerous scales.

Centropomus atridorsalis.

Depth of body $3\frac{1}{3}$ times in the total length, length of head $2\frac{3}{4}$ times. Diameter of eye 5 times in the length of head, interorbital width $6\frac{1}{4}$ times. Length of snout $1\frac{1}{4}$ times the diameter of eye. Maxillary extending to below middle of eye, the breadth of its distal extremity equal to $\frac{1}{2}$ the diameter of eye. Præorbital with 5–7 serræ. Anterior ridge of præoperculum with 2 spines, posterior margin serrated, with 2 or 3 spines at the angle. 13 gill-rakers on the lower part of anterior arch, the longest equal to $\frac{2}{3}$ the diameter of eye. Sc. $52\frac{6}{13}$. D. VIII, I 10, the third and fourth spines the longest, equal to $\frac{1}{2}$ the length of head. A. III 7, the length of the third spine $1\frac{3}{4}$ times in that of the second, which is equal to $\frac{7}{8}$ the length of head and, when laid back, extends beyond the base of caudal. Pectorals and ventrals extending to the level of the anal opening. Inner caudal rays half as long as the outer. Lateral line blackish. Membrane of dorsal and caudal fins and that between the second and third spines of the anal blackish; fins otherwise pale.

Total length 160 mm.

One specimen from the Rio Vaqueria, near La Tola, N.W. Ecuador.

This species is readily distinguishable from others with a blackish lateral line by the great length of the second anal spine.

Corvina Crawfordi.

Depth of body equal to the length of head, $3\frac{2}{5}$ times in the total length. Snout $1\frac{5}{7}$ times as long as the diameter of eye, which is $5\frac{1}{2}$ times in the length of head; interorbital width $3\frac{1}{3}$ times. Depth of the præorbital slightly greater than the diameter of eye. Maxillary extending slightly beyond the vertical from the anterior margin of the eye, its length $2\frac{5}{6}$ times in that of the head. Jaws with bands of small, pointed

teeth, those of the outer series of the upper jaw enlarged; no canines. Posterior border of præoperculum dentated, the angle with two fairly strong spines, the lower pointing downwards. Gill-rakers equal in length to $\frac{1}{3}$ the diameter of eye, 16 on the lower part of the anterior arch. D. X, I 28, the third and fourth spines the longest, equal to $\frac{2}{3}$ the length of head. A. II 8, originating below the thirteenth branched ray of the dorsal, the second spine stout, equal to $\frac{1}{3}$ the length of head. Pectoral pointed, equal to $\frac{2}{3}$ the length of head. Ventral spine equal to $\frac{1}{2}$ the length of pectoral, the outer branched ray with a short terminal filament, extending nearly as far back as the pectoral. Caudal doubly truncate. Scales finely ciliated, arranged in vertical series both above and below the lateral line, 55 in a longitudinal series, 6 between the base of the first dorsal spine and the lateral line. Depth of caudal peduncle $2\frac{3}{4}$ times in the distance from the base of the last anal ray to the caudal. Olivaceous above, silvery on the sides and below; upper half of the body with brownish stripes, which posteriorly run horizontally along the middle of each series of scales and anteriorly curve downwards and run vertically. Membrane of the fins dusky.

Total length 250 mm.

A single specimen, obtained at Montevideo by Mr. M. J. Nicoll during the voyage of the 'Valhalla,' and presented to the British Museum by Lord Crawford.

Acara sapayensis.

Depth of body $2\frac{3}{5}$ times in the total length, length of head $2\frac{2}{3}$ times. Diameter of eye $3\frac{1}{3}$ times in the length of head, interorbital width $2\frac{3}{4}$ times, length of snout $2\frac{2}{3}$ times. Maxillary extending to the vertical from the anterior margin of eye; breadth of præorbital equal to $\frac{3}{4}$ the diameter of eye; cheek with 3 series of scales; 5 gill-rakers on the lower part of the anterior arch. Sc. $26\frac{3}{8}$. L. lat. 15-17+8-9. D. XV 10, the spines increasing in length to the last, which is equal to $\frac{2}{3}$ the length of head; the soft fin pointed, the fourth and fifth rays longest, extending to beyond the middle of caudal. A. III 8, the first spine half the length of the second, the second $\frac{3}{4}$ the length of the third, which is equal to $\frac{2}{3}$ the length of head. Pectorals and ventrals extending to the level of the origin of anal. Caudal truncate rounded. Length of caudal peduncle $1\frac{1}{3}$ times in its depth. Dark brown, with 6 obscure blackish cross-bands on the upper half of the body; some small blue spots on the head; fins blackish.

Total length 115 mm.

One specimen from the Rio Sapayo, N.W. Ecuador.

This species is allied to *A. cæruleopunctata*, Sldr., which has a smaller eye and shorter caudal peduncle.

Gobius (Awaous) Guentheri.

Gobius transandeanus (part.), Günth. Cat. iii. p. 62 (1861).

Depth of body $6\frac{1}{2}$ times in the total length, length of head 3 times. Breadth of head $1\frac{5}{8}$ times in its length, depth of head $2\frac{1}{8}$ times. Diameter of eye $6\frac{1}{3}$ times in the length of head, length of snout $2\frac{1}{3}$ times, length of maxillary twice. Maxillary extending to the vertical from the anterior margin of the eye. Osseous interorbital width $\frac{3}{5}$ – $\frac{2}{3}$ of the diameter of eye. Scales ciliated, 60–63 in a longitudinal series, 17–18 in an oblique series from the origin of the second dorsal backwards to the anal, about 30 in front of the first dorsal. D. VI, I 10, the spines of the first fin more or less produced, the second and third the longest; distance from origin of first dorsal to posterior margin of eye equal to the distance from that point to the tip of snout; rays of the second dorsal subequal, half the length of head. A. I 10, the length of the rays $2\frac{1}{2}$ – $2\frac{3}{4}$ times in that of the head. Pectoral pointed, its length $1\frac{2}{3}$ – $1\frac{3}{4}$ times in that of the head. Ventrals extending $\frac{2}{3}$ of the distance from their base to the origin of anal. Caudal rounded. Head and upper part of body spotted or marbled with dark brown; second dorsal with longitudinal, caudal with vertical dark lines; pectoral with a dark bar on the base of the upper rays; ventrals and anal blackish.

Total length 140 mm.

Two specimens from Western Ecuador.

It is here desired to restrict the name *G. transandeanus* to a species which differs from the above notably in the following features:—Length of head $3\frac{1}{2}$ times in the total length. Length of maxillary $2\frac{3}{4}$ times in that of the head, length of snout $2\frac{2}{3}$ – $2\frac{3}{4}$ times. Maxillary not reaching the vertical from the anterior margin of eye. 35–40 scales in front of the dorsal. Distance from origin of dorsal to posterior margin of eye $1\frac{1}{4}$ times the distance from that point to the tip of snout. Ventrals and anal pale.

This diagnosis is based on four specimens from W. Ecuador, measuring up to 175 mm. in total length.

G. Guentheri is closely allied to *G. latus*, O'Shaughnessy, which is distinguished by the fewer scales. This latter species is not a synonym of *G. banana*, C. & V., but is the one which American authors have identified with *G. flavus*,

C. & V., without good reason, since *G. flavus* is described as having "la bouche fendue jusque sous l'arrière de l'œil," whereas in *G. latus* the cleft of the mouth barely extends to below the middle of the eye. Moreover, it appears to me to be unjustifiable to place *G. banana*, C. & V., in the synonymy of *G. taiasica*, Lichtenstein. The description of this latter species is entirely inadequate, but as it is said to come from Brazil it is more probably identical with *G. latus* than with *G. banana*, which has been recorded from the Antilles and from Central America.

Chasmodes maculipinna.

Depth of body 4 times in the total length, length of head $3\frac{1}{2}$ times. Snout concave, equal in length to the eye, the diameter of which is $4\frac{1}{2}$ times in the length of head. Inter-orbital space narrow, concave. Maxillary extending to below posterior $\frac{1}{3}$ of eye. D. XII 14, a notch between spinous and soft-rayed portions, the latter the higher, its longest rays equal to the postorbital part of head. A. 18. Pectoral equal to $\frac{2}{3}$ the length of head. Anterior part of dorsal with a large black spot, extending from the first to the fourth spine.

Total length 63 mm.

A single specimen from the Rio Durango, N.W. Ecuador.

LXV.—Notes on *Scapholeberis aurita* (*S. Fischer*), a *Cladoceran* new to Britain. By ROBERT GURNEY, B.A., Sutton Broad Laboratory.

THE only species of the genus *Scapholeberis* hitherto recorded as British is *S. mucronata* (O. F. Müller), but I have now to add *S. aurita*, which I have recently found in three localities in Norfolk. Considering the peculiar swimming habits of *S. mucronata*, as described by Mr. Scourfield *, it may be of interest to compare the two species in this respect, and also with regard to certain points in their structure.

In both species the ventral margin of the shell-valves is flattened, but this area is proportionally larger in *S. aurita* and is bounded externally by a very prominent ridge and internally by the thickened edge of the valve. This thickening of the edge, which is quite conspicuous, is not continued the

* Journ. Linn. Soc., Zool. vol. xxv. pp. 1-19 (1894).